Predicted Performance Of Magnetized Semiconductor Phase Shifters For Millimeter-Wave Microstrip Array Antennas

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Summary

The tunable phase shift of a planar magnetized semiconductor phase shifter is presented, suitable for an integrated environment due to its miniature size, low-biasing requirements, and lower material related problems at millimeter-wave frequencies. A linear microstrip phased array antenna with an integrated semiconductor phase shifter is designed and the calculated beam steering properties are tabulated. The design process is verified by simulating similar ferrite-based linear phased array antennas.

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